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SUPERIOR COURT OF THE STATE OF CALIFORNIA
IN AND FOR THE CITY AND COUNTY OF SAN FRANCISCO
HONORABLE WINTON MC KIBBEN, JUDGE PRO TEM PRESIDING
DEPARTMENT X-5
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MILTON J. HOROWITZ, et al.,
Plaintiffs,
vs. No. 965245
RAYBESTOS-MANHATTAN, et al.,
Defendants.
/

REPORTER'S TRANSCRIPT OF PROCEEDINGS
AUGUST 23, 1995
JURY TRIAL
VOLUME I

A P P E A R A N C E S

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P R O C E E D I N G S

THE COURT: Good morning, ladies and gentlemen. We have some matters to discuss for the next half hour, so if you'll come back at 10:00 o'clock, please.

(In open court outside the presence of the jury.)

THE COURT: Are we ready?

MS. CHABER: Yes, Your Honor.

THE COURT: Okay.

MS. CHABER: I guess one of the issues, Your Honor, is the agreement between Hollingsworth and Vose and Lorillard.

THE COURT: Okay.

MS. CHABER: We are offering the agreement with the paragraph 23 redacted. Does the Court have the --

THE COURT: I have it in mind. It's in on my desk, but I have it in mind.

MS. CHABER: The portion relating to indemnification being, "Shall not extend to claims or liabilities where fully insured," with the insurance portion all crossed out.

THE COURT: Yes.

MS. CHABER: It's our position, Your Honor, that the evidence of this agreement in its totality goes to the issue to show bias or potential bias. These defendants have, in

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23 some ways, put on a unified defense, but in other ways have
24 pretended to be separate and distinct entities and yet,
25 neither has pointed the finger or made accusations against
26 the other, such as would be the case in a potentially Prop
27 51 case where different liability can be ascribed to the
28 different entities.

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1 It would be the typical situation that under those
2 circumstances, Hollingsworth and Vose would be arguing: We
3 just made the material. We made it for something they
4 wanted. It was their use of it that was the problem. They
5 might jointly initially say: Well, the plaintiff didn't
6 smoke them, and it's not -- doesn't give off enough fibers.
7 But the second argument would be: But if it does, we
8 are not the responsible party, or we are not as culpable, or
9 we shouldn't be held as culpable. We were just making this
10 small component part and they are the ones that put it for
11 this use, and the agreement goes to that basis.
12 There is case law that we've cited, Your Honor, that
13 indicate that that is a legitimate basis to show what the
14 incentive and the motive for the failure to make that kind
15 of argument for the joint effort that's being done here to
16 show that when Mr. Ohlemeyer stands up and asks questions,
17 he's really asking them on behalf of Hollingsworth and Vose,
18 and then Hollingsworth and Vose gets to go, as well.
19 And the jury's entitled to draw inferences from that
20 relationship, inferences of bias and inferences of blame
21 that will not be able to be before this jury. There will be
22 a pretense and, in essence, a mistruth to them that these
23 are two separate companies whose liabilities are separate
24 and wholly apart, when in reality, any liabilities that
25 Hollingsworth and Vose has are being taken care of by

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26 Lorillard and have been agreed to be taken care of from the
27 beginning of the inception of this agreement.
28 And that's why we have this unity of defense, and

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1 that's why we have no pointing of the fingers, and that's
2 why we have gee, you know, none of us knew, because we would
3 not have the same set of circumstances if that agreement was
4 not in place.
5 MR. BRAKE: Your Honor, first of all, in this most
6 recent brief, plaintiff asserted that we were trying to keep
7 the entire agreement out of evidence, which has never been
8 my position. If Counsel wants the agreement in evidence, as
9 Your Honor put it, to show the business relationship between
10 the two, I don't have a problem with that. What I have a
11 problem with focuses on this indemnity provision.
12 THE COURT: Is that 23?
13 MS. CHABER: Yes.
14 MR. BRAKE: She's characterized my position that I
15 want the whole thing out. She's not willing to redact all
16 of 23, she wants the first sentence of 23.
17 THE COURT: Which says?
18 MR. BRAKE: Which says that Lorillard agrees it will
19 indemnify and save Specialties -- which is H and V, for our
20 purposes -- harmless against certain kinds of claims against
21 manufacture of the filter material.
22 MS. CHABER: Do you want the exhibit?
23 THE COURT: I have it on my desk.
24 MS. CHABER: Because that goes to bias, Your Honor,
25 and that is what -- I thought you asked me why I wanted it.
26 THE COURT: I understand.
27 MR. BRAKE: As far as this bias argument, it's a
28 difficult one, I think. There's nothing to it. It's a

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1 difficult one to grasp, but there's nothing to it.
2 What Counsel's saying is she is convinced that but for
3 this provision, that we would be pointing the finger at each
4 other because, in what she calls a Prop 51 case,

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where she
sues every asbestos manufacturer for different products that
the man was exposed to, the defendants, of course, have an
interest in saying: It wasn't my product, it was the other
guy's product.
Here there's one product, and while I don't want to
get into what the law would hold us to as a supplier of a
component part, no one's made a defense that: Well, H and V
didn't know this was going into a cigarette. In fact, the
plaintiffs like to ridicule that notion. Of course we knew,
because there's the patents we heard so much about
yesterday.
There's one product, Your Honor, and there's no basis
for the plaintiff to say that she really -- if she didn't
have an indemnity arrangement between the two, as stated in
this agreement -- she doesn't know what the modern
arrangement is. She has this agreement. What she's saying
is she would have these two pointing their fingers at each
other like in a Prop 51 case.
We haven't mislead the jury. We've told them from the
outset there's a joint defense, joint experts. I asked all
of two questions of Dr. First and probably won't ask any of
Dr. Pooley, and I think I asked none of Dr. Gibbs. There's
no illusion that the jury's under. The only reason they
want this is to create the prejudicial effect, and I think

1155 does preclude it. There's nothing in that case law
that changes it at all. I think 23 in its entirety should
be redacted.
THE COURT: Mr. Ohlemeyer, any comment?
MR. OHLEMEYER: Can't say anything more than Mr. Brake
said.
THE COURT: Okay. Submitted?
MS. CHABER: Submitted.
MR. BRAKE: Yes, Your Honor.
THE COURT: I'll grant the motion that it may be
admitted with all of 23 redacted.
MS. CHABER: Should I have a copy marked

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now, Your
13 Honor, and then substitute one this afternoon?
14 THE COURT: Yes.
15 MS. CHABER: Could I just know for the
record the
16 Court's reasoning?
17 THE COURT: Well, I think it's unduly
prejudicial, and
18 I think the whole gist of their joint arrangement
is
19 displayed in the whole document as a whole, with
that
20 redacted. I don't think there's any ambiguity in
it.
21 THE CLERK: It will be Plaintiffs' Exhibit
105.
22 MS. CHABER: In evidence, Your Honor?
23 THE COURT: Yes, please.
24 (Plaintiffs' Exhibit 105 marked and received
in
25 evidence.)
26 MR. BRAKE: This is the copy going in
evidence?
27 MS. CHABER: I will substitute the redacted
version
28 this afternoon when I've had a chance to call
someone to do

1 that.
2 Next, Your Honor, I filed with the Court a
request to
3 take judicial notice. As the Court recalls, we
deleted
4 certain testimony of Mr. Thompson, the advertising
man, with
5 respect to the reasons why the ads changed in
1954.
6 The ads changed in 1954 because the FTC came
out with
7 guidelines for cigarette advertising. Those
guidelines are
8 contained within the hearings before the
subcommittee of the
9 committee on government operations, the House of
10 Representatives for the 25th Congress on July
18th, 19,
11 23rd, 24th, 25th, 26th, 1957.
12 THE COURT: Perhaps I should get that
matter. Just a
13 moment.
14 MS. CHABER: Okay.
15 MR. OHLEMEYER: If I may, Your Honor.
16 THE COURT: Yes.
17 MR. OHLEMEYER: I'm not sure what you're
being asked
18 to take judicial notice of. What you were given
is a
19 transcript of a hearing before a subcommittee in
Congress.
20 THE COURT: Yes.
21 MR. OHLEMEYER: The transcript, of course,

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is hearsay.
22 It contains a lot of other hearsay documents. The
23 reference -- and this was a hearing that was
begun,
24 suspended, and never concluded. There were no
findings made
25 by this subcommittee, there was no report issued,
there were
26 no facts adjudicated.
27 At page 299 of the transcript, there was a
proposal
28 from the FTC for some cigarette advertising
guidelines.

1 Those proposed guidelines were not ordered,
decreed and
2 enacted into law by this subcommittee or by
Congress itself.
3 So I think the material that's proffered is
hearsay
4 and potentially prejudicial and confusing. I
think the fact
5 that you've been asked to take judicial notice
that hearings
6 were held by this subcommittee is a fact that is
irrelevant
7 to the issues to be decided in this case and has
the
8 potential to confuse and mislead the jury.
9 MS. CHABER: Your Honor, what I'd like to do
is have
10 an October, looks like 18, 1955 letter from the
Federal
11 Trade Commission to Mr. William J. Halley,
president of P.
12 Lorillard Company marked as plaintiff's next in
order, and I
13 think that will shed light on this subject.
14 MR. OHLEMEYER: And exactly what that letter
says is
15 that the FTC had adopted guidelines that they had
hoped the
16 cigarette companies would voluntarily conform
their
17 advertising to. There was no decree or
adjudication by the
18 FTC about any of this.
19 I think the whole issue of what the FTC may
or may not
20 have thought about cigarette advertising in the
'50s is
21 extremely confusing, has no relevance to the
issues in this
22 case, and is potentially prejudicial and should be
excluded
23 as irrelevant hearsay in its present form and
under section
24 352.
25 THE CLERK: Plaintiffs' Exhibit 106 marked
for
26 identification.

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27 (Plaintiffs' Exhibit 106 marked for identification.)
28 MS. CHABER: Actually, I'd like two more marked, as

1 well. Second one would be a June 5th, 1956 letter addressed
2 to Mr. Alden James, vice president of P. Lorillard from
3 Charles E. Grandey, director bureau of consultation for the
4 Federal Trade Commission.
5 THE CLERK: Plaintiffs' Exhibit 107 marked for
6 identification.
7 (Plaintiffs' Exhibit 107 marked for identification.)
8 MS. CHABER: And then a memorandum dated October 21st,
9 1957 regarding a meeting with the Federal Trade Commission
10 on 10-21-1957.
11 THE CLERK: Plaintiffs' Exhibit 108 marked for
12 identification.
13 (Plaintiffs' Exhibit 108 marked for identification.)
14 MR. OHLEMEYER: My objections are similar. I won't
15 repeat them.
16 MS. CHABER: Your Honor, in the document 106, which is
17 the Federal Trade Commission document, the Federal Trade
18 Commission notes that they looked at the advertising for
19 Kent cigarettes, certain claims that were made on the Kent
20 cigarettes, and that it is their view that these are not --
21 this and similar claims would be governed by guide two, and
22 they mention the other FTC guides.
23 They are asking the company to basically cease and
24 desist from this advertising. And it is the policy of the
25 Federal Trade Commission to try to seek voluntary compliance
26 from companies before they impose standards. The cigarette
27 industry has always been very careful, when laws are about
28 to be passed, to voluntarily agree.

1 There's a second letter, which is 107 -- I'll hand
2 these up to the Court in a moment -- again, from the Federal

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Trade Commission, that questioning the claims and that --
noting that you advised that for the time, you had decided
to drop reference to the quote "effectiveness of the
Micronite filter."
And then they comment on some of the other language
there, and it says: You will recall that questions
concerning Kent commercials were initiated by my letter of
October 13th, 1955 to Mr. Halley, and specific reference to
the particular claims still in use to which we have clearly
indicated our objections were made in a December 1st, 1955
letter, also to Mr. Halley; a note that Mr. Thompson and
Mr. Lapaham of Young & Rubicam discussed these claims in the
office of the FTC, at which time "we made our position,
namely that, in our opinion, the claims violated guide two,
very clear. At that time we requested that your company
consider its position with respect to the continued use,"
and it goes on to indicate that "You are therefore requested
to promptly advise us as to your company's intentions with
regard to the continued use of these claims. Failure to so
advise us by the first of next week will leave us with no
alternative except to refer the matter for other handling.
So it's clear that the Federal Trade Commission is going to
issue something if it doesn't happen.
The last memorandum, Plaintiffs' Exhibit 108,
discusses the meeting had with the representative,
Mr. Grandey, G-r-a-n-d-e-y, had with the advertising agency

and the discussions -- strike that, not with the advertising
agency, with Lorillard people.
And they met with the Federal Trade Commission on
10-21-57 and they assured Grandey that "We have now
eliminated the possibility of a recurrence of an event of
this nature stating that the agency would furnish me with

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any new copy as much in advance as possible, and that I would come down for consultation with him on such copy, making references to certain claims made in advertising."

And it says, "However, I think we must recognize the fact that we have to live with the FTC and its regulations, and that we have no desire to test them in the courts. Acting upon this assumption, there are three conclusions to be drawn from today's meetings: That we must show them our advertisements before they are run. Two, that some language changes in the advertisements claiming `first in blank,'" close quote, "are necessary and that our figures for those cities should be shown to FTC in advance of publication. And three, that we are rapidly approaching the point where we will be straining the present aura of goodwill at FTC if we continue to make our claims in the present form on tar and nicotine."

And they note in here that they are governed at the meeting -- "I pointed out to them the weakness of the system which requires us to be governed by a code, wherein particular elements of the code are not susceptible of distinct legal definitions." And then they complained about certain of the definitions, but it's noted in here that they

felt bound by this.

And clearly, the FTC felt that they had powers to order the voluntary compliance, as it were, with the changes in advertising, and that the company changed its advertising not because they decided that they didn't want to make health claims anymore, but because the FTC required them to do so. And I'd like to pass this up to the Court.

MR. OHLEMEYER: Very briefly, Your Honor, if all of that were true and if all of that were something you could glean from this evidence, it still isn't relevant

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to any
claim in this case. If the plaintiff makes an admissible
case on fraud and false representation, this jury will
decide whether these ads were false, true, or anything in
between.
Why Lorillard changes their ads has not yet been an
issue in this case. If there is evidence in the defense
case that Lorillard changed their ads because they were nice
guys or because they decided to do something for some other
reason, some of this might be relevant as contradiction to
that. It might be rebuttal evidence. But at this point in
the case, this has nothing to do with the claims in this
case. And the FTC decided nothing. And what the FTC thinks
about this advertising really isn't relevant to what the
jury has to decide about it.
So for all those reasons, I think in its present form
it's hearsay, I think it's irrelevant, I think it has the
potential to confuse, mislead the jury, and its probative
value is outweighed by the prejudicial effect it would have

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to suggest to the jury that these ads were false and they
should accept them as being false because the FTC suggested
in some vague and unsubstantiated way that certain things
said in certain ads didn't conform with what they perceive
to be guidelines they would prefer that people follow.
Submitted.
MS. CHABER: Your Honor, I have one additional
document, Plaintiffs' next in order.
THE CLERK: Plaintiffs' Exhibit 109 marked for
identification.
(Plaintiffs' Exhibit 109 marked for identification.)
THE COURT: What's 108?
MS. CHABER: It's one of the three letters I handed
you, Your Honor. 108 is the memorandum of the meeting with
the Federal Trade Commission.

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16 THE COURT: All right.
17 MS. CHABER: 109, Your Honor, is the report number
18 1372 from the 85th Congress of the House of Representatives,
19 second session, on false and misleading advertising relating
20 to filter tip cigarettes.
21 And on February 20th, 1958 it was submitted to the
22 committee of the whole house and the statement of the union
23 in order to be presented. This report indicates that the
24 Federal Trade Commission did indeed issue guidelines in 1954
25 and '55, and that it was because of that, that advertising
26 changed, and discussed the role of the FTC in getting
27 advertising changed and found that there was indeed false
28 and misleading advertising.

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1 On page 20 of this, Your Honor, it sets forth the FTC
2 cigarette advertising guide and says, "In its attempt to
3 obtain `voluntary compliance' in September 1955, the Federal
4 Trade Commission issued the following guide for staff use in
5 evaluating cigarette advertising." And then it lists the
6 guide and includes "no representation, claim, illustration
7 or combination thereof should be made or used which directly
8 or indirectly, one, refers to either the presence or absence
9 of any physical effect or effects of cigarette smoking in
10 general or the smoking of any brand of cigarettes. No
11 words, including those relating to filters or filtration
12 which imply the presence or absence of any physical effect
13 or effects are considered subject to this guide."
14 So it held specifically that that related not just to
15 the tobacco, but related to the filter cigarettes and
16 relates to that in a number.
17 "Four, represents medical approval of cigarette
18 smoking in general or the smoking of any brand of
19 cigarettes," and we have a whole series of advertisements
20 from Lorillard in 1952, '53 and '54 where it's the "Dear

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Doctor" series, where a doctor is depicted there recommending Kent cigarettes to be smoked.

MR. OHLEMEYER: Can I shortcut this, Your Honor? The key words there were "staff guidelines." What the FTC did internally and how the FTC perceived advertising is not an issue to be decided in this case.

Rather than have counsel flip pages and read sentences, if we all want to sit down and read all of this,

I think you would learn that it does not have any relevance to this case, it's an undue waste of this time, and it has the potential to confuse and mislead them.

THE COURT: Well, why don't you give me that. I'm not going to be able to read this and make a decision right this minute with the jury out there. I'll have to take it under submission --

MS. CHABER: All right, Your Honor.

THE COURT: -- and read it more carefully than I can do right now.

MS. CHABER: I believe, Your Honor --

MR. OHLEMEYER: May I ask a question?

THE COURT: Sure.

MR. OHLEMEYER: I still don't understand the purpose for which that evidence is being offered. If it is being offered to rebut the suggestion that advertising changed voluntarily, there has been no evidence from the defendant as to why any advertising was changed.

MS. CHABER: First of all, that inference is there because the portion of Mr. Thompson's deposition that discussed why the advertising was changed was deleted subject to this, Your Honor, so there's number one.

It was left out there as a big, empty question as to why they made any of these changes. They are going to argue well, they made these changes and, you know, and it leaves them free to argue all sorts of things in closing, Your Honor.

MR. OHLEMEYER: I'm not going to say a word about why

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advertising was changed in my closing. Mr. Thompson's testimony was the plaintiffs' evidence offered over my objection. That's the point, Your Honor, none of this has any relevance to any issue that the jury needs to decide.

MS. CHABER: But the point was that that testimony was chopped up from its reality into a less than real situation, and Mr. Thompson talks about how they voluntarily changed these ads. Well, voluntarily to what? Voluntarily because the FTC was going to require them to?

And those guidelines did go into effect and, in fact, they did meet with them and they did change those ads. The change and the timing of the change is highly significant as it relates to the time period my client says he smoked these cigarettes and why he began smoking these cigarettes, and the changing of the ads over time and the sequence of the changing of the ads over time is highly relevant on that point, Your Honor.

MR. OHLEMEYER: And every single advertisement is in evidence. You can line them all up start to finish.

MS. CHABER: And the Court can take judicial notice of the hearings of a body of this government, the body of this government being the Congress of the United States and the finding of the Congress of the United States that these ads were indeed false and misleading advertising.

MR. OHLEMEYER: And that statement is absolutely false. This Congress, this committee, never made such a finding.

THE COURT: Okay. I'll have to look at the documents,

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based on these documents, and I'll see it. That's all I can say now. I haven't read them.

MR. OHLEMEYER: Thank you, Judge.

THE COURT: What else?

MS. CHABER: I have a whole series of

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documents that
would need to be marked. I can put some as a joint exhibit.
One of the issues, Your Honor -- and see again, this is why
I thought we were doing this at the end of the live
witnesses because I think this is going to take awhile, Your
Honor, and rather than have the jury wait, it is my
suggestion that we put the witnesses on and that we deal
with the plaintiffs' documents after.
And if the problem is that they want me to rest, I
will rest on the submission of my documents with the
understanding that in rebuttal, I should be able to get up
and show some of them. We took defendants witnesses out of
order for their convenience, and we now have a jury who's
sitting in the hallway.
We have live witnesses who can be put on by the
defense, and I would suggest to the Court that for the
jury's convenience and the witnesses convenience, which seem
to have been a concern of defendants yesterday, that we get
the live witnesses on and off, and that we schedule a time
when the Court has an opportunity to look at the documents
offered and when we have a full opportunity to argue them.
MR. OHLEMEYER: If what Counsel's suggesting, Your
Honor, is that she rest subject to the Court's consideration
of this FTC rigamarole and the documents that were given to

us last night, the Fishbein documents, the JAM editorial,
the Armor Research correspondence and this H and V
correspondence, then I have no problem with that.
THE COURT: All right. That's what we will do.
MR. OHLEMEYER: I want to know what the playing field
is.
MR. BRAKE: Is that all you're talking about? We just
want some specificity as to what's left in the case so we
can know. That seems entirely fair.
MS. CHABER: I've told them that and I don't

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know what
the confusion is. The confusion is not in anyone else's
minds.
MR. BRAKE: The statement --
MR. OHLEMEYER: So the stack I got last night is what
is in play?
MS. CHABER: This is the stack I intend to offer in.
I will be happy to go over the stack you have and confirm
that everything that's in that stack is in this stack.
There were also some additional documents that you
pulled out from the Revere documents and the Fullam
documents that occurred after 1957. I provided them to you
earlier on in the week, and maybe we can just work out a
stipulation.
A stipulation I would seek is that Fullam did work for
Lorillard, electron microscopy work for Lorillard in years
subsequent --
THE COURT: Why don't you discuss this amongst
yourselves, and let's have the jury back in here, please.

(In open court in the presence of the jury.)
THE COURT: Everyone is here, so we are ready to
proceed, please.
MR. OHLEMEYER: Your Honor, with the understanding
with the exception of some documentary evidence, plaintiff
has rested, we are ready to start our case.
THE COURT: Did you all hear that? All right.
MS. CHABER: With the proviso that they have already
started their case, to a large extent.
MR. OHLEMEYER: Yes, having previously called
Dr. Gibbs and Dr. First, I now call M.S. Block.
THE CLERK: Please come forward and raise your right
hand.

M.S. BLOCK,

having been called as a witness by the Defendants, was duly
sworn and testified upon his oath as follows:
THE CLERK: Please state your name and spell your name
for the record.
THE WITNESS: M.S. Block, B-l-o-c-k.

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20 THE CLERK: Thank you, sir. Please be seated.
21 DIRECT EXAMINATION BY MR. OHLEMEYER
22 MR. OHLEMEYER: Q. Good morning, Mr. Block.
23 A. Good morning.
24 Q. You might pull that microphone a little closer.
25 Tell us where you live.
26 A. [DELETED]
27 Q. And what do you do there?
28 A. I'm retired.

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1 Q. How old are you?
2 A. 78.
3 Q. And from where are you retired?
4 A. From Lorillard.
5 Q. How long did you work at Lorillard?
6 A. 35 years.
7 Q. Tell us about your college education.
8 A. I have a degree in mechanical engineering from the
9 University of Louisville, in Louisville, Kentucky, and I'm a
10 registered professional engineer in four states.
11 Q. And what is a registered professional engineer?
12 A. Well, that gives you a license to practice consulting
13 or any engineering degree.
14 Q. Why don't you tell us about your employment history
15 from the time you graduated from college until the time you
16 retired.
17 A. I worked briefly for an aerial surveying company for
18 about a year. Then I worked for four years at Norfolk Navy
19 Yard as an ordnance engineer. And then during that time, I
20 got married and had two children. Then I went in the Navy
21 during World War II, and when I came out of the Navy, I
22 worked briefly for an aircraft manufacturer for about eight
23 months, and then I went to work at Lorillard at Middletown,
24 Ohio.
25 Q. And when was that?
26 A. That was in 1947.
27 Q. And what did you do for them in Middletown, Ohio?
28 A. Oh, I was plant engineer. They made smoking and

1808
1 chewing tobacco.
2 Q. And describe for us what a plant engineer

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does.
A. Well, in that particular capacity, I was in charge of buildings, machinery, equipment, and also any research involved mechanical things, machinery, tools, so forth.
Q. How long were you in that position?
A. About two years.
Q. And then what did you do?
A. Well, I was transferred to the New York office of the chief engineer of the whole company, and I stayed there for 20 years and became director of engineering and was eventually transferred down to where we had our operations in Greensboro, North Carolina.
Q. And what year did you retire?
A. In '82.
Q. Were you involved at all in the development of Kent cigarettes?
A. Yes, I was.
Q. How did you become involved in that?
A. Well, when the inception of what a Kent filter should be like became apparent, then the problem was how to make it on a piece of machinery, and I was involved in developing the machinery and equipment to manufacture the filter.
Q. And who did you work with in developing that machinery and that equipment?
A. A number of people, but primarily Dr. Harris Parmele.
Q. Who was he at the time?
A. He was a vice president and director of research. He

and I had worked in Middletown together and we were transferred to New York at the same time.
Q. Was the Kent cigarette Lorillard's first filtered cigarette?
A. Yes.
Q. And what type of machinery did you develop to manufacture the filters?
A. Well, it was unique equipment -- at least part of it was -- called the back end that fed material into the front end. The front end was fairly well-known in the manufacture of cigarettes, the tobacco portion, but the back end where

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12 the filter was assembled was a unique piece of machinery
13 that had never been developed before, and I think
14 Dr. Parmele had some of the patents on that particular piece
15 of machinery.
16 Q. Were you involved with him in developing that
17 machinery?
18 A. I principally developed the machinery, yes.
19 Q. And you're familiar with the patents and the patent
20 that he obtained on that machinery?
21 A. Yes.
22 Q. Let me ask you something, Mr. Block. How long does it
23 take to get a patent, once you apply for it?
24 A. It takes so long, by the time you get the patent,
25 you're not using it anymore. That's true of most patents.
26 Q. Has that been your experience?
27 A. Invariably.
28 Q. Do you yourself hold patents?

1 A. A number of them. None of which are used anymore.
2 Q. And during the time -- when Kent cigarettes were
3 introduced, was the filter described in any way? Did it
4 have a trademark?
5 A. It was called a Micronite filter.
6 Q. And how long was the word "Micronite" used to describe
7 the filter on Kent cigarettes?
8 A. Oh, for quite some time, yes. And through a variety
9 of changes of the filter, too.
10 Q. Regardless of what the filter was made out of, it was
11 still called Micronite?
12 A. It was a generic name like aspirin.
13 Q. During the time that you manufactured Kent cigarettes
14 with the asbestos filter, did Lorillard make or sell any
15 other filtered cigarettes?
16 A. Yes, we started putting filters on Old Golds. As I
17 recall, it was a year or two after we -- or shortly
18 thereafter we brought out the Micronite filter.
19 Q. Did you use the same type of filter material on the
20 Old Golds?
21 A. No, it was completely different.
22 Q. What was different about it?
23 A. Well, the one on Old Golds was made out of what they
24 called tow, t-o-w, and it consists of fiber

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strands very,
very fine, most of them smaller than a human hair, and they
are laid longitudinally, although somewhat jumbled, and they
form a filter, but they didn't compare in efficiency to the
original Micronite filter at that time.

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Q. Do you know what any of the competitors were using as
filter material at that time?
A. Oh, they were -- the Russians used a little wad of
cotton stuck in a cardboard mouthpiece. I think Parliament
and some others at the time had some cellulose acetate tow
filters like we put on Old Golds.
Q. How long did you use the asbestos filter material in
Kent cigarettes?
A. I can't say exactly. It was approximately four years
from about '52 to '56, but I don't remember the exact months
when they started and stopped, so I can't say exactly how
long. It was approximately four years.
Q. And when you switched the filter material on Kent,
what did you switch it to?
A. First we switched to a tow, very similar to the one we
used on Old Golds, but they had developed the tow material
to the point where it was a fairly decent filter with the
exception it was very hard to draw. In order to make it
efficient and remove nicotine and tar, which was our goal,
why, it had to be so tightly compacted, you'd almost pull
your cheeks hollow when you'd draw on the cigarette, and
that was the drawback on that filter.
Then we went to another filter called the E-60
process, which solved that problem.
Q. Was the method of manufacturing the tow filter
different than the method of manufacturing the asbestos?
A. It was entirely different, entirely different.
Q. I'll ask you about that in a minute. We've got some

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charts, I think, that you could use to describe that.
When did you start considering or looking for an alternative to the asbestos filter material?
A. Practically the day we started developing the Micronite filter, because it was a highly inefficient and very expensive filter to make. When I say inefficient, not inefficient as a filter, but inefficient to manufacture.
And when you have a product like that, why, you really start trying to find a better and less expensive way of making something just as good or better.
Q. And was that something you were involved in?
A. Very much.
Q. Why didn't you switch to the tow material sooner for the Kent cigarettes?
A. As I've said before, the same reason the Wright brothers didn't have a jet engine on their airplane. It didn't exist.
Q. You were using it on Old Golds?
A. Yes, but it wasn't sufficiently effective to remove the nicotine and tar that we wanted to do in Kent.
Q. During the time that -- during the 1950s, did you smoke cigarettes?
A. Yeah, uh-huh.
Q. What brand of cigarettes did you smoke?
A. Old Gold.
Q. Did you smoke Old Gold filters or unfiltered?
A. Filtered. I started smoking Old Gold filters.
Q. Did you ever smoke Kent cigarettes when they had the

asbestos filter?
A. We always smoked the product or tried the product we made, and I smoked Kents occasionally just to get a feel of how -- when people complained about them being too hard to draw, I would smoke a few to verify the fact yes, they are too hard to draw. But I didn't smoke them for my personal pleasure and enjoyment.
Q. Why did you prefer the Old Golds to the Kents?
A. Well, it had a less effective filter and it let more

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tar and nicotine and flavor come through, and that was my opinion.
Q. During the time that you worked with Dr. Parmele in the 1950s, did you also see him on a social basis?
A. Yes, we were -- our families were friends. We played bridge together, we took -- he had a nice cruiser, and we used to take weekend trips together, so we were personal friends.
Q. Did you visit in each others home?
A. Very much.
Q. Was Dr. Parmele a smoker?
A. Yes.
Q. What brand of cigarettes did he smoke in the 1950s?
A. When they first came out commercially, he smoked Kents exclusively.
Q. How long did he continue to smoke Kents?
A. As far as I know, to the day he died of a heart attack.
Q. And when did he die?

A. About '65, I believe.
Q. And do you know if his wife was a cigarette smoker?
A. Yes.
Q. What brands of cigarettes did she smoke?
A. Kent.
Q. During the time that you were smoking Kents with the asbestos filter material, what was Dr. Parmele's brand and what was his wife's regular brand?
A. Kent.
Q. Now, Mr. Block, have you put some drawings together for us to describe the manufacturing process?
A. Well, I made some rough sketches. Somebody else with more talent than I made the drawings.
Q. Let me -- and you also had somebody animate these, didn't you?
A. Yeah.
Q. Let me --
MR. OHLEMEYER: Your Honor, do you mind if he steps down?
THE COURT: No, go right ahead.
MR. OHLEMEYER: Q. Tell us, Mr. Block, what's going on here.
A. Well, this is the process that took place at Hollingsworth and Vose, which is a textile manufacturer up

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in New England.
Q. Let me stop you there. Did you ever visit Hollingsworth and Vose while they were making filter material?

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A. Yes, I did.
Q. So you actually saw this?
A. I've seen this process.
Q. Go ahead and describe it for us.
A. This is a roll of corrugated paper. As I said, this is a roll of corrugated paper. This is a roll of the tow material. Now, that consists of a lot of fibers, primarily asbestos and a cellulose-type fiber like rayon, or one of those, and cotton. And they were blended together in this textile machinery and formed into a thin blanket.
And as that corrugated paper unrolled, we laid a layer of the filter material on top of it. Then on top of that went another roll of corrugated paper, and so on. So we ended up with four layers of corrugated paper and three layers of tow material in between them, and they were wound up on what we call the master roll.
Now, this master roll is what left Hollingsworth and Vose factory and was shipped to our Jersey City factory where we made it into the filters.
Q. All right.
A. Can everybody see that?
Q. I'll turn the animation on in a second.
What do we have here, Mr. Block?
A. As you recall, a little while ago I mentioned a front end and a back end. From here is basically the front end and from here is the back end. And the back end is a thing that was absolutely unique to this particular process.
Here we have the master roll that has been shipped

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from Hollingsworth and Vose, and as it unrolls and it's pulled out, we have two knives that were like scissors, and they trimmed a portion off of each side. And the reason for that was that the width of this roll, as it pulled

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out, had
to be exactly 660 millimeters. You'll find out a little bit later why it had to be that exact width.
And these pinch rolls that pulled it out, pulled it out about 50 millimeters, which is about two inches, just shy of two inches, and then a knife came down that way and cut it off. So now we have a piece of material flat, which consists of four layers of corrugated paper, three layers of tow. It's exactly 660 millimeters long now. It's going to travel that direction. And about 50 millimeters wide.
It was picked up by a belt, which is not shown here because it doesn't do anything except pick it up and move it forward. And each piece went forward and butted against the piece ahead of it. It was carried to a compression funnel. This compression funnel had one purpose. That was to take that flat piece of material and bend it around and compress it so it came out the end of the funnel in the same size and shape as a filter.
Q. Let me stop you there, Mr. Block.
Could you calculate a ratio of that compression, what size it went to, from where to where?
A. It was about 32 to 1, so the compression was pretty tight. But that had to be very accurately controlled, because that amount of compression would tell you what the filtering efficiency was, but it also would regulate how

much nicotine and tar it would take out, and we had to maintain a very consistent filter.
Then from there -- this is a roll of paper very much like cigarette paper. As it unrolled, this was -- this rod was laid on top of it, traveled down here, and the paper was wrapped around it with a little lip sticking up. At this point, an adhesive was applied to that little lip that's sticking up. It was ironed down, and a small amount of heat

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was put on it so that it would seal that paper around it.
Then it traveled on to a knife, very sharp knife, that cut it off into lengths of exactly 66 millimeters. Those rods were 66 millimeters long, so you got 10 of them out of each of these pieces. Remember, they were 660 millimeters.
But unfortunately, wherever one piece butted up against the other, there was a joint. And we could not allow that joint to become a filter on the end of a cigarette, because the joint would tend to move just a little bit and we would never know exactly what kind of filter the person would get, so every tenth filter we had to throw away.
Q. Let me stop you there.
Was there something on the machine that actually rejected every tenth filter?
A. Yes. If this knife had cut it off -- had a little mechanism that every tenth would go like that, and throw it out into waste. So here we have waste, about two percent waste, here at these trimming knives. Then down here we have one wasted, one rod out of every 10. So we got 9 rods

instead of 10, which means an 11 percent waste, so added to the other waste is about a 13 percent waste. This is waste that can't be recovered. There's nothing you can do with it except throw it away. That was one of the bad things about this process.
Q. Let me show you the picture of the other process. And let me ask you to describe this one for us generally, and tell us how it differed from the process used to make the asbestos-containing filter material.
A. Well, the principal difference is you see this front end here is about the same? From here back is where the big difference is. This is a bale. It's a bale of material called tow, t-o-w.

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14 And these are fibers that are smaller than a human
15 hair, and there are thousands of them in one of these
16 strands. And it's continuous from one end of the bale to
17 the other. That strand from one end of the bale to the
18 other is about 109 miles, make about two-and-a-half million
19 filters. And it's continuous.
20 As you pull it off the bale, why, the bale is all
21 wound back and forth, but it's compressed very tightly. It
22 also has a wave in it very much like the wave a woman would
23 put in her hair, and there's a reason for that, as you'll
24 see in a moment. But the strands at this point are all laid
25 parallel to one another. It wouldn't make a very good
26 filter because the smoke would go right through.
27 From there, it passed over a couple of air jets, which
28 tend to flatten it out. It then goes over a roll to reverse

1 direction, and here what they call blooming rolls. Now,
2 their function is this: The pair of rolls in front run
3 slightly faster than the pair of rolls in back which, in
4 effect, take the tow and give it like a jerking action like
5 that. And it could do that because of this permanent wave
6 that's in it. It will stretch a little bit.
7 Then when it gets on the other side of this roll and
8 relaxed, when it comes back, strands are all jumbled up. It
9 looked like the fibers in a cotton ball; that is, you can't
10 see one strand laid next to another where you could before.
11 It then passes through a booth where some powder is
12 applied, vibratory rods to take the excess powder off. It
13 goes through the compression funnel just like you saw
14 before. It goes to the adhesive, the heater, and the
15 cut-off knife.
16 Now, the big thing you notice, there's no every tenth
17 rod being thrown out. There's no joint. Since this is

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18 continuous for 109 miles, you don't have that joint, and you
19 don't have any trimming knives to cut the edges. Everything
20 that comes out of the bale goes into the filter. That is
21 the principal difference.
22 Q. Let me ask you to take your seat, and I'll put all
23 this in motion in a second here, Mr. Block.
24 Is this process, the one you just described, similar
25 to what they use today to make cigarette filters?
26 A. Yes, it's very similar, except we don't apply the E-60
27 powder anymore.
28 Q. Is this process more efficient than this process?

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1 A. Well, as you can see, there were two major sources of
2 waste there. As I mentioned, you have about 13 percent
3 inherent waste. Nothing we could do about it. And here the
4 waste is absolutely minimal, unless somebody lets a glue pot
5 run out or electricity goes off or the heater stops,
6 basically, you have no waste.
7 Q. What about the relative speed with which you could
8 manufacture filters with this process compared to that
9 process?
10 A. The fastest we were ever able to run this process,
11 because it is a stop-and-go intermittent-type of thing, the
12 fastest we were ever able to run it was about 500 rods a
13 minute. And this one initially ran at 2,000. So it was
14 four times the speed and took a lot fewer people to do,
15 besides.
16 Q. And what effect does the relative amount of people it
17 requires to run the process have on the manufacturing --
18 A. This process took about two-and-two-thirds persons,
19 about two-thirds of a person. We didn't chop them or
20 anything. It would take two people for three machines. And
21 one reason was that that master roll only ran a limited
22 number of rods before it ran out and had to be replaced, so
23 we were constantly stopping the machinery so

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somebody could
24 put a new roll on and feed it through, so that took a lot of
25 people.
26 This process ran about one-and-a-half persons.
27 Primarily, somebody to catch the rods at the discharge end,
28 and about once a shift somebody would have to change that

1 bale.
2 Q. Was the asbestos filter material more or less
3 expensive than the tow bale?
4 A. It was more expensive because it was a slower process.
5 Q. But the filter material itself, the raw material, was
6 it more expensive or less expensive?
7 MS. CHABER: Objection, foundation.
8 THE COURT: If he knows, he may answer.
9 THE WITNESS: This material was less expensive than
10 that material. In dollars and cents, I don't know. But
11 proportionally, it was less expensive.
12 MR. OHLEMEYER: Q. Comparatively speaking?
13 A. Comparatively speaking.
14 Q. Let me, Mr. Block, just ask you to kind of briefly
15 explain what we've done with these drawings. Can you see
16 either one of those?
17 A. I can see this one over here.
18 Q. What's going on there, Mr. Block?
19 A. That's what I described before. That's making the
20 master roll at Hollingsworth and Vose where you saw the four
21 rolls of corrugated paper and the filter material being in
22 between.
23 Q. And then what's this?
24 A. Well, this shows the master roll, which has been
25 shipped to Jersey City, unwinding, being trimmed on each
26 side and being cut off into 50 millimeter widths, and then
27 going on to a belt and moving forward into the compression
28 funnel. And from there, it went to the adhesive, tipping

1 paper put on, and then to the cut-off knife. And as you can
2 see there, every tenth rod is going into the waste can.

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Q. And this is the other process?
A. That's the E-60 process. And the reason it looks like it's going back and forth is because the tow was laid on the bale, and just any way it happened to fall and then compressed in a very high velocity press, and so it's going back and forth as it is unwound from the bale.
And you can see it going through the blooming rolls where it's stretched and bloomed, and then through the compression funnel, the adhesive on the paper, and then it's being cut off. And you notice there's no tenth rod flying off in the waste.
Q. With the asbestos filter material, once you got the filter rods, how were they attached to cigarettes?
A. Well, they went -- the rod was 60 millimeters long. It was put into what they call an assembler, where it was assembled into the tobacco portion. It was cut into three sections of 22 millimeters a piece, a tobacco section put at each end and tipping paper wrapped around it and cut in half.
So now we have a tobacco portion and we have a 22 millimeter tip that's cut in half, so you have an 11 millimeter filter on each finished cigarette. In other words, each one of those rods that came off of the Micronite process was cut and ended up making six cigarettes.
Q. And how was that cut? What kind of knife was used to cut that?

A. It was a very high speed, very, very thin, only maybe a couple thousandths thick, very sharp razor-type knife. It was circular and it was constantly sharpened as it went around.
Q. When you switched to the nonasbestos filter material, what color was that filter material?
A. The nonasbestos? It was dyed a sort of a bluish gray.
Q. And how long did it remain that color?
A. Oh, I guess up till the early '60s.

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Q. Do you know if regular-sized Kents -- do you know what
I mean by a regular-sized Kent?
A. I think they were 70 millimeters.
Q. As compared to a king-sized?
A. Which was about 80 or 85.
Q. How long were Kent cigarettes sold in a regular size,
just generally?
A. As far as I know, they were sold for quite a few
years, the regular size, although we did bring out some
other sizes periodically.
Q. And Mr. Block, finally, why is it that Lorillard
switched from the asbestos filter material to the
nonasbestos filter material?
A. Well--
MS. CHABER: I'm going to object Your Honor on
foundation. Maybe I can voir dire?
THE COURT: All right. Go ahead.
VOIR DIRE EXAMINATION BY MS. CHABER
MS. CHABER: Q. Were you part of management, sir?

A. Yes.
Q. And were you part of decision making when it came to
the decision to switch?
A. Yes.
Q. And was that decision based solely on the equipment?
A. No.
Q. Your involvement?
A. No.
Q. You were involved beyond the equipment?
A. Economics, pure economics.
Q. The equipment was too expensive?
A. No.
Q. The process?
A. The process was too expensive, which made the filters
too expensive.
Q. Did you have discussions with Mr. -- was Mr. Halley
still the president then?
A. No, I think he had been replaced by Mr. Ganger, as I
recall.
Q. Did you have discussions with Mr. Ganger as to
changing the filter?
A. In meetings, not with him individually, but I sat in
meetings where we discussed the change from one type to the
other.
CONTINUED DIRECT EXAMINATION BY MR. OHLEMEYER

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MR. OHLEMEYER: Q. And tell us, Mr. Block, why you switched from the asbestos to the nonasbestos filter material.

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A. It was purely economics and besides, we felt that the nonasbestos, which we eventually developed with the E-60 process, was a superior filter. It was easier to draw and we got the same nicotine and tar removal that we were after with a simpler, less expensive, and a better filter. That's the only reason we changed.

Q. Why didn't you do it sooner?

A. Didn't know how to.

MR. OHLEMEYER: Thank you. That's all I have.

CROSS-EXAMINATION BY MS. CHABER

MS. CHABER: Q. Sir, you said that the filter that you switched to was a superior filter because it was easier to draw.

A. One of the reasons.

Q. And the early original Kent filter cigarette was a hard draw, wasn't it?

A. It was more difficult, yes.

Q. Did you ever hear people joke about sucking on it could cause you a hernia?

A. I didn't think it was quite that hard.

Q. You did make some comment about your --

A. You tend to pull your cheeks in. Of course, I was thinner then.

Q. And sir, you stated that the filter was as effective for the removal of tar and nicotine as the asbestos filter?

A. Yes.

Q. And you know that because you did tests on that?

A. I read the results of tests done by our laboratories.

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Q. And did you read the results that Consumer Reports -- of the tests that Consumer Reports did on various brands of cigarettes?

A. I can't recall specific reports, but we were required to submit these reports to the Federal Trade Commission, as

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you're aware, so I would assume that what reports we got were accurate.
Q. When the new filter came out, there were no advertisements claiming that it offered the greatest health protection, were there?
A. Now, which filter?
Q. This new, better, more efficient filter that didn't have asbestos in it, there was no more advertising claiming that it was offering the greatest health protection ever, was there?
A. Not to my knowledge. I wasn't that familiar with the advertising. I do remember an article in Reader's Digest which gave it a very, very good rating.
Q. That was after the asbestos was taken out?
A. I believe that was the E-60.
MR. OHLEMEYER: Mr. Block, I'm having a hard time hearing.
THE WITNESS: I'm sorry.
MS. CHABER: Q. Now, you smoked Old Golds; right?
A. Yeah.
Q. You don't sing do you?
A. If you ask me to, I will. I'll try anything.
Q. You smoked Old Golds?

A. Yes.
Q. The filtered?
A. Yes.
Q. And do you remember Old Gold advertising that no other leading cigarette is less irritating or easier on the throat or contains less nicotines than Old Gold?
A. I don't recall such an ad.
Q. Now, Lorillard was the only one that ever put asbestos into a filter for a cigarette that you're aware of?
A. I'm not saying someplace in the world somebody might not have.
Q. In the United States?
A. But to my knowledge, nobody did.
Q. Nobody in England did that?
A. I don't know.
Q. You were familiar with some of the British cigarettes?
A. Only -- no, not really. Couldn't say I was.
Q. At the time of the asbestos filter, all the other manufacturers that were making filter cigarettes were using

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plant materials like cellulose acetate and cotton, things like that? Isn't that what the other filter cigarettes -- the filter portion was made out of?
A. Yes. If you had put paper in that same category, that's true.
Q. Paper is a plant product, isn't it?
A. Yeah.
Q. Chopped down a lot of trees?
A. Could be made of rags, but rags come from plants.

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Although some come from petroleum now, don't forget that.
Q. The cigarettes at that time with filters, there was some petroleum?
A. Could be made. You could make fibers -- rayon, for example, I think is a petroleum product.
Q. At the same time that Kent was selling this supposedly better filter on the Kent cigarette with the asbestos, they were also selling what you described as a less effective filter on the Old Golds?
A. Not initially. I mean, Old Gold filter came along after Kents were first introduced.
Q. But didn't --
A. I think it was a year or two, maybe.
Q. Didn't they come along in 1953?
A. I'm quoting from memory.
Q. And you didn't buy any of your Kents, you got them for free, didn't you?
A. When I could, yes.
Q. They gave them out to the people who worked there; right?
A. Yeah. Or I'd just go to the machine and pick them up.
Q. And if you went to a store, you'd buy Old Golds because that was your preferred brand?
A. Well, actually, if I got them in the plant free, I still got Old Golds. That was the brand I smoked. Kents were the ones that I sampled from time to time.
Q. Now, you said that the second filter was less expensive process than the first?

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A. Oh, by far.
Q. And the cigarettes sold for less, though,

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didn't they,
than the asbestos filtered ones?
A. Originally Kents sold at a premium price, and I think
it was Mr. Gruber, (phonetic) who was a CEO at the time,
decided that they would reduce the price to competitive
prices. It had nothing to do with the efficiency of the
filter. It was purely a marketing decision.
Q. And when the new process went into effect, the
cigarettes stayed the same price, right, even though it was
a less-expensive process?
A. Yes, because when we reduced the price when we were
making the asbestos filter, we probably didn't have any
profit in it.
Q. And there was no announcement to the public of the
change in the filter until 1957; correct?
A. I don't know. I was unaware of it if there was.
There would be no reason to.
Q. You didn't tell the salespeople who were selling the
product that it had been changed?
A. Why should they need to know?
MR. OHLEMEYER: Mr. Block, I'm sorry, I'm having a
hard time hearing. Maybe put the microphone in the stand.
THE WITNESS: I can swallow it, if you'd rather.
MR. OHLEMEYER: If you'd put it in the stand and lean
forward, I think we will be okay.
THE WITNESS: I'm tired.
Okay?

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MR. OHLEMEYER: Well, it's better. Still got to keep
your voice up.
THE WITNESS: Sorry.
MS. CHABER: Q. That's okay.
Sir, the asbestos wasn't the thing that was expensive
in that process, was it?
A. It was one of the things that was expensive, but
remember that the process at Hollingsworth and Vose had up
in New England was a slow, expensive process. So we were
paying very dearly for the raw material.
Q. You were getting the material already made into a
filter media; correct?

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13 A. I'm not too sure. You'll have to define "filter
14 media."
15 Q. Gee, that was the language that everybody else has
16 used. I thought that that would be something that you would
17 be familiar with.
18 Did you already get it in the shape of a filter?
19 A. No.
20 Q. Was it provided as furnished? Is that a word that
21 sounds familiar to you, "furnished"?
22 A. No.
23 Q. Lorillard made whatever you got from Hollingsworth and
24 Vose into the filter itself?
25 A. That's correct, as I've described there.
26 Q. And that was something that Lorillard and
27 Hollingsworth and Vose were doing as a joint venture; right?
28 A. To the best of my knowledge it was a joint venture,

1 yes.
2 Q. Hollingsworth and Vose made the filter portion of it,
3 Lorillard made it into the cigarette filter and attached it
4 to the cigarettes?
5 A. Easy to say that H and V made the master roll and we
6 converted the master roll into a usable filter.
7 Q. And the material, the roll, when it would get attached
8 to the two cigarettes would get cut in half to make two
9 filters?
10 A. To make two finished cigarettes.
11 Q. To make two finished cigarettes?
12 A. Correct.
13 Q. And that cut was made on the part of the cigarettes
14 next to the mouth?
15 A. Correct.
16 Q. And sir, you're not aware, are you, of any -- strike
17 that.
18 Mr. Parmele did not share with you, sir, did he, any
19 information regarding any testing that was done to see
20 whether or not asbestos fibers were released into the smoke
21 from that Kent asbestos cigarette?
22 A. If they had had tests which indicated fibers came off
23 the end I would have been apprised of that, yes.
24 Q. Sir, were you aware that Mr. Parmele was having --

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A. Parmele.
Q. Parmele, sorry -- was having Kent cigarettes tested to see whether or not asbestos came off of it?
A. We tested all of our cigarettes in all ways, and that

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would normally have been one of the tests that we would run, yes.
Q. You were aware of that, sir?
A. Yes, because that's the way we tested all our cigarettes.
Q. Sir, do you recall being asked this question and giving this answer:
"I take it that you were not aware in 1954, when you were working in Jersey City, that Dr. Parmele had someone looking into the question of asbestos fibers coming out with the smoke in Kent cigarettes; right?
"Answer: I was unaware of it. "
A. As I said before, we tested all cigarettes in all ways and that would normally be one of the tests. I may not have been aware of that specific test, but had the test indicated fibers came out, I would have been asked to solve the problem as I was in later filters where we had the problem.
Q. Where fibers came out of later filters?
A. No, not fibers.
Q. Things came out?
A. In the E-60 process, some of the powder came out and we solved it before we sold the cigarettes.
Q. Things come out of filter cigarettes?
A. Not that went on the market.
Q. Sir, did you give this answer to this question:
"I take it that you were not aware in 1954, when you were working in Jersey City, that Dr. Parmele had someone looking into the question of asbestos fibers coming out with

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the smoke in Kent cigarettes; right?
"Answer: I was unaware of it."
MR. OHLEMEYER: Your Honor, it's argumentative. He's answered it three times.
MR. BRAKE: She's reading the same thing.
THE COURT: Sustained.

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MS. CHABER: Q. Sir, that was not something that Dr. Parmele shared with you that he had the cigarettes tested by two laboratories, did he?
A. He would have shared the results of a test, had they been within my area to help solve a problem. That's the only reason I would become aware of a problem was if I had to help solve it.
Q. Well, sir, wasn't the solution to just change the filter and not have asbestos in it at all?
A. That was not the reason we changed to the other filter.
Q. Sir, that was not something that was shared with you, that there were tests done on the presence of asbestos fibers in the smoke, was it?
MR. OHLEMEYER: The question's been answered.
THE WITNESS: As I said before, if the results had been that fibers came out, I would have been told of the negative part of the test. If it was a positive test that didn't involve my expertise, I would not be told.
MS. CHABER: Q. Sir, were you advised that the Kent cigarettes were being tested for the presence of asbestos fibers?

MR. OHLEMEYER: Your Honor --
MS. CHABER: That's a yes or no.
MR. OHLEMEYER: My objection is it's argumentative. She got her answer from the witness.
MS. CHABER: He's not answering the question.
THE COURT: He's answered by inference and she wants a direct answer, and I think she's entitled to a direct answer, yes or no or he doesn't know.
THE WITNESS: Would you repeat it, please.
MS. CHABER: Q. Sir, you were not advised that Dr. Parmele was having Kent cigarettes tested at two different laboratories for the presence of asbestos fibers in the smoke from Kent original Micronite filter, were you?
A. I was not aware of that particular test for that

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particular problem, if there was a problem.
Q. That's a no, you were not aware?
A. I answered it.
THE COURT: That's the inference. I think we can accept that.
MS. CHABER: I have nothing further.
MR. OHLEMEYER: I don't have anything else. Thank you, Mr. Block.
MR. BRAKE: No questions, Your Honor.
THE COURT: Any member of the jury have any questions? Apparently not, Mr. Block. Thank you very much.
THE WITNESS: You don't want me to sing?
THE COURT: You don't have to sing.
MR. OHLEMEYER: How would you like to proceed, Your

Honor? I have some exhibits I can have marked and offered, or we can deal with the issue that's still pending.
MS. CHABER: I think we should deal with all the exhibits at once, Your Honor.
THE COURT: All right.
MR. OHLEMEYER: I have a witness that can be here at 1:00 o'clock, if you want to start at 1:00 o'clock or 12:30.
THE COURT: We will start at 1:00 o'clock, have a long noon recess.
MR. OHLEMEYER: I can put him on now, if you like.
THE COURT: Put him on now.
MR. OHLEMEYER: Your Honor, I'd call Dr. Frederick David Pooley.
May we take a stretch break? We have to track him down.
THE COURT: If you want to go to the restroom, whatever. Please come back right away, but remember the admonitions.
(Recess taken.)
THE COURT: All right. Everybody's present. We are ready to proceed.
MR. OHLEMEYER: Your Honor, Dr. Frederick Pooley.

FREDERICK D. POOLEY, Ph.D.,

having been called as a witness by the Defendants, was duly sworn and testified upon his oath as follows:
THE CLERK: Please state your name and spell your name for the record.

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THE WITNESS: Frederick David Pooley, P-o-o-l-e-y.

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THE CLERK: Thank you, sir. Please be seated.

DIRECT EXAMINATION BY MR. OHLEMEYER

MR. OHLEMEYER: Q. Dr. Pooley, what's your occupation?

A. I'm a professor in the school of engineering in the University of Wales in Cardiff.

Q. And that is in the United Kingdom?

A. That's correct.

Q. And how long have you been in that position?

A. I've actually been a member of staff at the university for 30 years, but I've been a professor for the last ten years.

Q. And over those 30 years, have you developed a specialty or special area of interest?

A. Yes. My areas of research interest really revolve around the study of fine mineral particles and their possible biological effects.

Q. And describe for us what you mean by "fine mineral particles."

A. Well, basically, dust particles; the sort of particles you see floating around in the air.

Q. Does that include occupational exposure to those dusts?

A. Yes.

Q. And what types of minerals specifically have you studied over the years?

A. Well, over the 26-year period we've been involved in this sort of research, practically every mineral.

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Q. Does it include asbestos?

A. Yes, it does.

Q. And you described biologic potential. What do you mean by that?

A. Well, the dust particles, when they are inhaled and retained in the lung in sufficient quantities, do result in the generation of what we refer to as dust-related diseases. And so what I mean by biological effects is the effects of the accumulation of mineral dusts in the lungs and the

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subsequent disease they produce.
Q. Describe for us your educational background.
A. I was initially educated in London, had a grammar school, which was the equivalent to a high school over here, and then I joined an organization called National Coal Board, which is -- was the organization which mined all the coal in Great Britain, as a trainee mining engineer.
And then with a scholarship from the National Coal Board, I proceeded to the university in Cardiff, where I obtained an honors degree in mining engineering, and subsequently followed that with a master's degree in minerals engineering and a Ph.D. in minerals engineering, as well.
Q. Throughout the course of your education, did you develop any familiarity with or any experience with electron microscopy?
A. Yes, as part of my initial research, the minerals engineering degrees I obtained related to the characterization and separation of fine mineral particles.

And at that time, I utilized the electron microscope extensively in the investigations I performed.
Q. Do you operate an electron microscope on a regular basis today?
A. Oh, yes, yes. In fact, within my division, I'm head of the division of materials and minerals in the school of engineering in Cardiff, and we have, in fact, five electron microscopes within the department.
Q. Have you had any experience in the analysis of lung tissue for the presence of asbestos fibers?
A. Yes, extensive.
Q. Describe that for us.
A. Well, essentially, if you're going to find out whether dust has caused a disease in the lungs, the best place to look, in terms of what mineral particles might have caused the disease, is, in fact, the lung itself.
The lung acts as, if you like, like a very large

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dust-sampling device, and so one can tell from the lung contents whether or not a person has been exposed to specific mineral dusts or has been exposed to large quantities of mineral dust by the amount that's retained in the lung, and that information can then be related to any disease that the individual has obtained from the exposure to the dust.

Q. Have you been involved with an organization known as the Medical Research Council?

A. Yes. I mentioned that we've been involved in this sort of work for the past 26 years. And the funding for

that research work has come almost exclusively from government departments, the major one of which is the Medical Research Council in Great Britain, which is really the government arm for medical research. And they funded us with research grants and contracts since approximately 1966.

Q. And have you conducted original research in this area and published the results of your research?

A. Yes, extensively, yes.

Q. Can you give us any estimate of the number of lungs and lung tissue samples you analyzed in connection with your work?

A. Well, I'm afraid it would only be an estimate. 26 years is rather a long time. But on average, we, at the present time, we probably see somewhere in the region of 1,500 to 2,000 lung specimens a year.

Q. And what percentage of those specimens relate to mesothelioma?

A. Quite a large proportion.

Q. Do you have any idea as to what percentage of the annual incidences of mesothelioma in Great Britain that you see in connection with your work?

A. Well, the figure for mesothelioma in Great Britain, it varies between approximately 900 to 1,000 cases a year, and we see in the region of about 300 mesothelioma

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cases a year.
Q. And do you belong to any professional organizations?
A. Yes. My engineering professional organization, which is The Institution of Mining and Metallurgy. I'm a member of the American Institute of Mining Engineers. I'm a member

of the Minerals Engineering Society in Great Britain. I'm also a chartered engineer.
Q. And have you acted as a consultant to government on the issues related to asbestos and disease?
A. On the basis that the government has funded us and is still funding us in this research field, we are regarded as permanent consultants to the government. So that any problems that do arise, they actually then approach us for full information, which we obviously readily give.
Q. Do you know of an organization known as the World Health Organization?
A. Yes.
Q. What is that organization?
A. Well, the World Health Organization is really an arm of the United Nations, which is concerned with the health and welfare of people in the world at large.
Q. And have you had any relationship with that organization?
A. Yes. We have close ties with a part of that organization known as the International Agency for Research on Cancer, which is based in Lyon in France, and they have funded several studies in which I've been involved.
Q. Would you describe for us, Dr. Pooley, some of the subject matter that you researched and published the results of that research in journals and in other medical and scientific literature?
A. Well, basically, the form of our research is to study groups of people who have been exposed to mineral dusts for

various periods of time or lengths of time, and to try and correlate what they've accumulated in their lungs,

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what
might have caused the disease, against what we call control
populations; what does the, sort of, average man in the
street have in his lungs, and does it affect him at all.
And from that sort of information, we can build up, as
it were, a picture of the amount of material necessary to be
inhaled and retained over a period of time, obviously, to
initiate that disease response.
And these studies have involved groups of individuals
in Sweden. We've studied, for example, cement plant
workers, we've studied asbestos textile plant workers,
asbestos friction plant workers. We've studied asbestos
textile plant workers here in the United States, in South
Carolina, Charleston -- North Carolina, sorry -- and, well,
over 26 years there have been quite a few studies that we've
been involved in.
Q. Can you give us any estimate as to the number of such
studies that you've published the results of?
A. It's well into double figures, obviously. 20, perhaps
30.
Q. In connection with that research, do you analyze the
size and the shape of the mineral particles or asbestos
particles you find in the lung tissue?
A. That's the, if you like, the crux of the sort of work
we undertake, in that these studies that we are involved
with are not just ours, there are pathologists involved and
there are people who are referred to as epidemiologists, and

epidemiologists are people that study groups of individuals
to determine whether or not their occupations, et cetera,
involve them in any risk of disease due to exposure to dust.
And so what we essentially do is that the
epidemiologist, he discovers the hot spot, as it were; the
epidemic, the disease cases. The pathologists and the other
doctors then monitor these, and when these cases

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normally
come to post-mortem, we then receive material to examine to establish whether or not these individuals had been exposed to certain types of dust. And from that information, we can establish the size of dust particles that have entered the lung and been retained, as I mentioned before, the number and the shapes, et cetera, compositions, a whole range of information.

Q. Have you acted as a court-appointed expert in the area of fine mineral particles or asbestos-related diseases?

A. Yes.

Q. When and where have you done that?

A. Here in the United States I was involved in a very large case in Minneapolis several years ago relating to the pollution of Lake Superior by a large iron ore mine there, reserve mining, and the case involved the Environmental Protection Agency here in the United States.

They were concerned about the health effects of these fine particles entering the lake. People were drinking the water, et cetera, and using the water to spray their gardens, and dust was being generated. And so I acted for nearly a year as a court's witness in that case in the

federal court in Minneapolis.

Q. And was it the court that actually had hired you?

A. Yes.

Q. To assist the court?

A. That's correct, yes.

Q. Would you describe for us the techniques that you can use to identify the types of mineral fibers that you collect and analyze?

A. Well, essentially, the analysis of fine mineral particles revolves around one basic instrument, and that is the machine called the analytical transmission electron microscope. That's a long-sounding name, but essentially, it's a microscope that allows us to see all dust particles.

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It has very high magnification ranges. You can magnify things up to half a million times so we can see the finest particles.

But being an analytical piece of equipment, we are also able to utilize that instrument to chemically analyze single dust particles. And also, we are able to study the structure of the particle, the crystalline structure.

So in one machine we have the means of observing sizing, looking at the shape, analyzing chemically and looking at the structure of individual dust particles. And with that capability, as I said, when we have a mixture of dust particles, we are able to categorize the dust, how many particles are X or Y, et cetera.

Q. When you refer to identifying the crystal structure, we've heard some testimony about x-ray diffraction and x-ray

dispersion. And generally, is x-ray diffraction the name that you apply to that technique?

A. No. The chemical analysis data is obtained by a technique known as energy dispersive x-ray analysis, energy dispersive.

Q. What's x-ray diffraction?

A. It is essentially a technique for studying the structure of crystalline materials, not single particles, large groups of particles.

Q. Dr. Pooley, how and when did you develop your interest in asbestos and asbestos-related disease?

A. Well, it was when I was completing my Ph.D. in Cardiff. At that time there was a very big research unit called the Pneumoconiosis Research Unit at a place called Llandough, L-l-a-n-d-o-u-g-h, Hospital. This research unit had been established in South Wales to study the disease amongst the coal miners in South Wales, but it had spread its wings and it was studying all, basically all occupational-dust disease cases.

And at that time, a gentleman arrived from

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South
Africa by the name of Dr. Chris Vagner, (phonetic) who had
been studying asbestos in South Africa in Johannesburg.
That's essentially where they mine a lot of the asbestos
that's being produced. And he came along, and he knew of
our expertise in the microscopic field. And he asked us to,
as it were, help him out to look at some of these very, very
fine particles which can't be observed with ordinary
microscopes.

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Q. And you've been doing that ever since?
A. Yes. I'm still associated with him.
Q. Is there asbestos in lungs of people who are not
occupationally exposed to asbestos?
A. Yes, yes.
Q. How does it get there?
A. Well, essentially, there are a group of asbestos
minerals --
Q. My question, Doctor, is: How does it get there? How
does the asbestos get to people's lungs?
A. Well, asbestos is a general name for a group of
minerals. Asbestos isn't an individual material. There are
basically five commercial forms of asbestos minerals, and
these asbestos minerals have been produced and mined purely
for their industrial advantages. They are very, very useful
materials in the industry and so much so, that they have
been utilized in a whole range of products. Thousands of
different products contain asbestos. You drive your car and
the brake linings have got asbestos in the brake linings,
for example.
And, of course, with all the asbestos spread out all
over the place in different locations, small quantities
obviously are released into the atmosphere, and so in
industrial towns you'd expect to find more asbestos, and
people are exposed to this drift of material which is
released into the air.
Q. Have you actually studied the lungs of

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people who do
not work with asbestos to see if there's asbestos present in

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their lungs?
A. Yes. I mentioned that a lot of our studies involved
looking at people who have been exposed to dust and
comparing them with what we call the general population.
Normal people, if you like. And we call those control
cases.
And that's normally how these studies are performed.
You look to see whether the people who are supposed to have
been exposed to dust, how their lung contents compare with
the general man in the street who hasn't been exposed to
asbestos.
Q. With respect to, as you described the man in the
street, what types of asbestos fibers do you find in those
lungs?
A. Well, essentially the -- we can find all types of
asbestos fibers, but in terms of the one we find most
frequently is the one that's been used most frequently, and
that is chrysotile.
Q. Do you also find crocidolite asbestos in those lungs?
A. Yes, it can be detected, yes.
Q. What is the relationship, Dr. Pooley, between the
physical characteristics of a mineral fiber like asbestos
and its ability to cause or its potential to cause disease?
A. Well, asbestos fibers, particles, are fibrous, and
this makes them very unusual, because if you were to look at
any dust, go out on the street and pick a handful of dust
from your garden, you would find that the particles are
normally rounded sand grains, for example, or flat and flaky

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clay particles, but you'd find very few fibrous particles.
And so asbestos -- one of the problems of asbestos

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dust, which makes it rather toxic, is the minerals form very long, thin fibers which, when they are inhaled into the lung, the lung finds them very strange, because it's normally used to looking at rounded and sort of flat objects.

And these particles, long fibers, wedge in the lung. And so they are very, very difficult to clear. And so this gives that fibrous material its toxic parameter, that fibrous nature.

Q. Have you done any research into the size and the shape or the lengths and the width of asbestos particles and how that affects their potential to cause disease?

A. Yes, indeed; yes.

Q. And what do the results of that demonstrate?

A. Well, essentially, most normal dust particles you would find in the lungs, nonfibrous ones, range between one micron and five microns in size rounded. And so if you were to look at asbestos fibers -- I mentioned that if they are long, they are very difficult to remove from the lungs, they wedge in the lungs. But as you reduce them in size to the size of the other dust particles that are present in the lungs so that, for example, if you reduce the asbestos particles to five microns in length, they then begin to behave like any other dust particle in the lungs and are very easily removed by the biological mechanisms that we do have to clear dust from the lungs. So it's essentially the

long asbestos fibers that are the most toxic.

Q. We've heard some testimony about a concept or a description of a concept known as respirability as it relates to asbestos fibers. Can you describe that for us?

A. Well, not -- if you were to pick up a handful of dust, again from your garden, and look at it and you can see the particles, as long as you can see the particles, you're

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never going to inhale them, because the size of particle that actually gets into the lung is so small, that you can't actually see it with the naked eye.

And so when you're out in a dust storm, for example, the majority of the particles that are whipped up by the wind are not respirable. It's only a very small portion in that dust cloud that is actually inhalable. And what happens is the larger particles are trapped in, for example, the nose and the back of the throat, and dusty conditions, sort of coughed and cleared your throat when the dust collects.

But as I said, the fiber particles that get through into the lungs, we refer to those as respirable particles. They get into the respiratory parts of the lung, the thoracic areas of the lung, the gas exchange region, and that's where the damage is incurred in dust-related diseases. So respirability refers to those fine particles.

Q. And do they have to be a certain size and certain shape to be respirable?

A. Essentially they have to be -- normally rounded particles would be less than seven microns in size, but long

asbestos fibers, they may be 40 or 50 microns in size, but they quite often behave as if they were seven micron rounded particles.

Q. And what sorts of diameters does that kind of behavior require?

A. Oh, the asbestos fibers are renowned for forming fibers that are very, very thin. They are so thin, you may have a 40 or 50 micron fiber which you could normally see if it was thick enough, but they are so thin, that the particles are almost invisible, even in a light microscope.

Q. Do you encounter asbestos in what are referred to as structures or bundles or aggregrates?

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A. Yes, yes.
Q. And what is a structure or a bundle or an aggregate of asbestos?
A. Well, it's -- I mentioned that asbestos consists of minerals which form long, thin fibers. And these fibers can intertwine and, very like knitting wool, they will form sort of aggregrates and fluffy particles. So that's essentially what an aggregate or a structure is.
Q. What holds them all together?
A. They are intertwined. Physical force is holding them together. And it's just like, as I said, just like having a bunch of knitting, as it were, or spaghetti, if you like.
Q. In that form are asbestos structures or aggregrates respirable?
A. No, normally aggregrates are trapped in the upper respiratory system of the lung.

Q. And in the form you described, are structures, bundles and aggregrates, do they have the potential to cause mesothelioma?
MS. CHABER: I'm just going to object. I think it's confusing, Your Honor. He's using three different words that are not synonymous with each other.
MR. OHLEMEYER: I'll rephrase the question.
MS. CHABER: At least there's no foundation.
THE COURT: All right.
MR. OHLEMEYER: Q. Does an asbestos structure have the potential to cause mesothelioma?
A. No, because a structure is essentially an aggregate. It won't penetrate into the lungs.
Q. Do regulatory standards that deal with exposure to asbestos in the workplace make a distinction between fibers greater than or less than five microns in length?
A. Yes. In order to try and control occupational environments where people work with dusty materials, standards are set, and the standard for asbestos, I think in the United Kingdom, is .2 fibers per ml, and this is an occupational exposure standard which shouldn't be exceeded,

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22 if possible, which a person can be exposed to for an
23 eight-hour day and with no risk involved.
24 And these occupational standards, as I mentioned -- I
25 think in California the standard is .1 per fiber per ml.
26 But they are essentially set at levels which reflect the
27 fact that the dust is so dilute at .1 fiber amount, you'd
28 have to inhale so much air in order to accumulate enough

1 fibers in order to get a disease, as it were. So that's how
2 they set the standards.
3 Q. And do those standards distinguish between fibers
4 greater than or less than five microns?
5 A. Oh, yes, indeed. Because the general consensus of
6 opinion is that fibers less than five microns behave like
7 normal dust particles. For control purposes they are not
8 counted when standard measurements are being taken.
9 Q. Do the standard measurements count single fibers or
10 structures?
11 A. Single fibers.
12 Q. And do those counting standards use light microscopy
13 or electron microscopy?
14 A. They use light microscopy.
15 Q. Is there a way to convert what you see under a light
16 microscope versus you what you might find under an electron
17 microscope?
18 A. Yes. I would say most laboratories who have worked
19 with asbestos know that you can't see all asbestos fibers
20 with an optical microscope, and they do have readings where
21 they have -- they do compare optical counts with EM counts.
22 And they have factors, if you like, which they can use for
23 converting either optical counts into EM counts or electron
24 microscope counts, EM counts, back into optical counts.
25 Q. Is there a range of factors that you use, with respect
26 specifically to crocidolite asbestos, that you see under the
27 light microscope as opposed to the electron microscope?

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28 A. Yes. Normally, if I had sampled a dust cloud with

1 crocidolite in it, I would not expect to see approximately
2 90 percent of the particles. They would be nonvisible in an
3 optical microscope. I would need an electron microscope to
4 see them.
5 Q. So how would you convert it or how would you make it
6 equivalent?
7 A. Essentially knowing that I can't resolve all
8 crocidolite particles with an optical microscope, I could
9 then, if I wanted to convert to it an EM count, I could
10 multiply it by a factor.
11 Q. What would the factor be?
12 A. Approximately about 30.
13 Q. Besides the length and width of asbestos, is there
14 anything else that affects its ability to get to the gas
15 exchange regions?
16 A. No. Essentially, it's just the size is the important
17 parameters, the size of the fibers.
18 Q. Have you done research into the relation -- let me
19 back up, Dr. Pooley.
20 At my request have you reviewed some material relating
21 to Kent cigarettes that were sold with asbestos-containing
22 filter material?
23 A. Yes.
24 Q. And have you looked at correspondence and documents
25 regarding work that was done in the 1950s to analyze the
26 smoke from those cigarettes?
27 A. Yes.
28 Q. Have you briefly reviewed the patents for those

1 cigarettes?
2 A. Yes.
3 Q. Have you reviewed testimony from a man by the name of
4 Doug Hallgren, correspondence from the Fullam Laboratories,
5 and have you actually reviewed the photomicrographs that
6 Mr. Hallgren created from the negative plates at the Fullam
7 Laboratory?
8 A. Yes, I have.

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Q. And are you also familiar with Dr. Longo's experiment?
A. Yes, indeed.
Q. You've seen the report on the syringe experiment?
A. Yes, I have.
Q. You've seen the report on the machine experiment?
A. Yes.
Q. You've looked at his data?
MS. CHABER: Could we have this not be leading, Your Honor?
MR. OHLEMEYER: Your Honor, I'm just --
MS. CHABER: Objection, leading.
MR. OHLEMEYER: It's not a matter that's in dispute. I'm just --
THE COURT: I think that's all right. Overruled.
MR. OHLEMEYER: Q. Have you looked at the videotape from Dr. Longo's experiment?
A. Yes, I have.
Q. And with respect to his data sheets, have you looked at those?
A. Yes, I have.

Q. And what were those? What was the point of those data sheets?
A. Essentially, they record the observations that he made on preparations that he obtained from some old Kent cigarettes.
Q. Did they describe the lengths and the width of the structures that were observed?
A. That's right, the number of particles and their approximate dimensions.
Q. Based upon that material that you've reviewed and based upon your background and your education and your experience in this field, do you have an opinion, Doctor, that you can state within a reasonable degree of scientific certainty as to whether people who smoked Kent cigarettes with those filters in the 1950s were likely to be exposed to respirable asbestos fibers?
A. I have an opinion.
Q. What is that opinion?
A. There is no evidence from all of that list of information that you mentioned, the reports and

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the most
recent reports by Dr. Longo, to indicate that or to show the
release of respirable asbestos fibers from Kent cigarettes.
Q. Let's start with the Fullam information.
What, if anything, does the Fullam information suggest
about the likelihood that these cigarette filters release
respirable asbestos fibers?
A. Well, they don't give any information whatsoever about
the respirability of the particles that have been recorded

in those micrographs.
Q. And what's the basis of your opinion?
A. Well, essentially, the techniques that were used at
that time, this is the middle '50s, 1954, they weren't able
to identify fibers, asbestos fibers, for example, in the
electron microscope. That's the first problem.
So that looking at those pictures, many of them I'm
sure are asbestos fibers, but a large proportion may not be
asbestos fibers. And there is no way of indicating which
are or which are not asbestos fibers and where they have
originated from.
Q. And are you able to conclude or are you able to
exclude the possibility that they originated from a source
other than the cigarettes that were being used in the
experiment?
A. Well, the techniques that were used to actually
prepare those specimens were very long and involved
techniques utilizing a range of chemicals and glassware, et
cetera, and there is no indication that those fibers
actually originated from the specimens, experimental
specimens, of cigarettes that were being examined at that
time or whether, in fact, they originated from the glassware
or from the chemicals, or whatever.
Q. Are you familiar with the use of air blanks and
laboratory controls?
A. Oh, yes, indeed.
Q. And is that something you do in connection

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with your
electron microscopy work?

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A. Yes, in our research, and I've mentioned the tissue research, we, in fact -- we utilize tissue controls.
Q. And what's the purpose of using blanks and controls in an experiment that involves electron microscopy?
A. Well, because it, as I said, it's very, very easy to introduce contamination into your observations. For example, somebody picks up a glassware that was used subsequently for preparing something else, and it looks clean, and you end up with just a very small amount of material giving an observation which appears to be very gross.
Q. Is there any way to rule out contamination, or is there any way to rule out contamination in an experiment in which you don't use blanks or controls?
A. Well, normally, that would be the way to approach the experiment is to actually perform controls. It's very difficult to rule out any contamination in any other way.
Q. Now, specifically with respect to Dr. Longo's experiment, do the results of Dr. Longo's experiment establish or even suggest a release of respirable asbestos fibers from the cigarettes he used in those experiments?
A. No, he's obviously indicating a release of material.
He's managed to produce some pictures of fibers, particulates and structures, but what he's prepared in his report are pictures of particles that have gone through a long processing route, as it were.
For example, in his first experimental set of experiments, he utilized a syringe to simulate smoking. And

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what he did then was to wash material out of the syringe to examine it. But of course, we all know people who work in

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this field, dust field, that as soon as you put dust particles or aggregrates in water, they will disperse and they change their shape.

So what he would have been looking at when he examined the specimens in his first experiment would have been the result of dispersion of the material that was contained in the solution, not a true representation of the particulates that might have been drawn, perhaps, from the cigarette.

Now, in his second experiment, he conducted that in a more scientific manner utilizing a smoking machine, and he actually collected the particulates onto a filter. And then he did the same thing again, he destroyed the filter by burning it, ashing it and dispersed the particles. And so what he saw, even in his second experiment, was not a true representation of what might have been pulled out of the cigarette.

Q. And is there a protocol that is available or published to analyze inorganic materials, such as mineral fibers, in a sample that contains organic material such as cigarette smoke, particulate matter?

A. Oh, yes, there's a very well-documented procedure produced by the Environmental Protection Agency here in the United States which specifies that if you want to look at airborne particulates -- and remember that we are talking about the collection of cigarette smoke, which is also air, as it were, also contains air, and that procedure laid down

by the EPA says that you should examine the particles directly on the filter once you've collected them. It's called the direct examination technique.

Q. Does that protocol allow the use of an indirect technique, if what you're trying to do is to count the number of structures or to size them in terms of their

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length and width?
A. No, if you use an indirect technique by, say, ashing the filter and disbursing the articles, obviously you've altered the numbers. You can create numbers. You shake aggregrates apart and produce misleading results.
Q. Did Dr. Longo use a direct method or an indirect method?
A. He used an indirect.
Q. In both experiments?
A. In both experiments.
Q. In your opinion, Dr. Pooley, would the failure to follow that protocol make it more or less likely that the sample material, the size and the shape of it, would be altered prior to its observation under the microscope?
A. Oh, it's almost certainly, following the protocols that Dr. Longo has written up, the material is almost certainly to have been altered in some respect.
Q. Nevertheless, Dr. Pooley, having prepared the sample material that way and having recorded the size and the shape of the structures in the data sheets, does either the syringe experiment or the machine experiment, the results of either of those experiments in their present form, separate

and apart from any problems that may have been involved in the preparation of the samples, do the results of those experiments suggest or indicate the release of respirable asbestos structures?
A. No, because of the fact that their morphology, number of concentration, et cetera, has been altered. You've no way of putting them all back together as they might have originated from the cigarette.
Q. And have you also -- well, Doctor, let me ask you to assume this. Assume that the second experiment used a reliable and a representative cigarette sample, and assume that the experiment was conducted using a properly-designed and a properly-executed protocol, and assume that

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Dr. Longo's results reflected a counting of fibers as opposed to the structures that he recorded.

Could you take the average concentration that he describes in his second report of asbestos structures greater than five microns and compare that to a regulatory standard?

A. Oh, yes, very easily.

Q. How would you do that?

A. Well, that's all you need to know is how many particles were released from an individual cigarette, how many cigarettes are in a packet, so you'd multiply that number by the number of cigarettes, and assume that they had been smoked over an eight-hour day, which would be comparable to an eight-hour working day for an occupational exposure, and you could arrive at a concentration of

particles that an individual might have been exposed to if he smoked a pack of Kent cigarettes over that eight-hour period and compare it with the levels of fiber that are defined by the regulatory agency as being sort of producing no risk of disease.

Q. And if you assumed that on the average, Dr. Longo observed 16.5 structures greater than five microns in length in per cc of the smoke he sampled in the machine experiment, can you make that calculation?

A. Yes.

MS. CHABER: Your Honor, I would object. I think this is beyond the scope of this witness' designation and beyond the scope of his expertise. He was designated as a mineralogist and his expertise is in looking at tissue analysis, not in doing occupational exposure analysis and conversions of fibers per cc under circumstances.

THE COURT: Overruled.

MS. CHABER: This is beyond the scope of what he was designated.

THE COURT: Overruled.

MR. OHLEMEYER: Q. Let me ask you, Doctor, to do

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that for us.
A. You wouldn't have a calculator handy, would you?
Q. I think Mr. Brake might.
MR. BRAKE: I usually do.
MR. OHLEMEYER: Q. Go ahead.
A. Well, he mentioned a figure of 16. --
Q. Assume that his average structure is greater than five

microns in the second experiment was 16.5 per cc.
A. And when you smoke a cigarette, the average volume of a puff is taken as 30 cc's. I think in Dr. Longo's report he used 30 cc's.
Q. Let me just ask you to assume he used 280 cc's for the entire cigarette.
A. Okay. So 280 cc's of smoke. And each cc would contain 16.5 structures. So that for a single cigarette, that's 4,620 per cigarette. Now, if the individual were to smoke 20 cigarettes in a day --
Q. Let's assume a pack a day, 20 cigarettes a day.
A. So we would want to multiply this figure by 20. I make that 9,000 -- 92,400 structures per -- if he smoked them over an eight-hour period, per eight-hour period.
Q. Why do you use the eight-hour period, Doctor?
A. Well, these occupation exposure standards that have been mentioned, they are normally calculated over what might be considered to be an eight-hour working day when an individual might be exposed to dust. Obviously, when he goes home, he's not exposed to the dust in the workplace.
Q. So for apples to apples, we are going to use eight hours?
A. Eight hours. So that would be the total structures.
Q. And how would you then compare that to the regulatory standard?
A. Well, let's take the regulatory standard .1 fibers per cc. Now, if you're working in the environment for eight hours, you're inhaling .1 fibers per cc. Each breath that

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you would take would probably be approximately between a liter and 1.5 liters. That's between 1,000 and 1,500 cc's of air. And so let's put that down. Does anybody have any objection to 1,500? 1,500 cc's per breath.

If you're not exerting yourself too much at work, you would normally be taking 14 to 15 breaths a minute. So we multiply this 1,500 by 15 to get breaths per minute. So if I do that, that's 22,500 cc's per minute.

Now, if we multiply that by 60 minutes, that will give us the hour. Times 60, that's 1,350,000 cc's. And if we multiply it by eight for an eight-hour day, that's ten million -- if I may start on the next page.

Q. Sure.

A. -- 10,800,000 cc's per working day.

Now, just harping back to the standard .1 fibers per cc, so we now just have to look at how many fibers that the individual would be exposed to if he was exposed to this particular occupational exposure standard, so we multiply this ten million by essentially .1, which gives us one million -- just take a naught off, essentially -- 1,080,000 fibers now, in comparison with what we calculated from a pack of cigarettes, which was 92,400, you could now see that these cigarettes contribute only a very small proportion of particles --

Q. And that's --

A. -- in comparison with the occupational exposure standard.

Q. And that's only if you accept --

MS. CHABER: Leading.

MR. OHLEMEYER: Q. Is that accepting --

THE COURT: Don't lead.

MR. OHLEMEYER: I haven't asked the question.

THE COURT: I know, but you sound like you might. Don't.

THE WITNESS: There's one more thing I ought to -- this value here was determined by Dr. Longo using

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an
electron microscope. This data here and this standard is determined using an optical microscope, a light microscope.
And if we really wanted to compare these two numbers, the more accurate way of doing it would be to convert the light microscope counts to EM counts, or we could convert the EM counts to light microscope counts. If we convert the light microscope counts to EM counts, we would have to multiply this by a factor of 30.
And so really what we are saying here, 1,080,000 really should be 30 million fibers or more in comparison with 92,000. So this emission of particles, if we consider them to be fibers, respirable fibers, from a pack of cigarettes is actually extremely small. It's less than 100th or 500th of the permitted exposure standard.
MR. OHLEMEYER: Q. And to make that calculation, Doctor, are you assuming that what Dr. Longo saw were fibers?
A. Yes, we are assuming that all the particles that he saw in that second experiment were respirable five micron fibers.

Q. And just to back up for a minute, in your opinion, did that experiment demonstrate respirable fibers?
A. No.
Q. Just a couple other questions, Doctor. You can take your seat.
Did you also just review some photographs taken by an organization known as the Armor Research Foundation?
A. Yes.
Q. And what is it that the Armor Research Foundation appears to have been doing for Lorillard in the 1950s, based on your review of that material?
MS. CHABER: Your Honor, could we have a sidebar on this, please?
THE COURT: All right.
(Sidebar conference.)
MR. OHLEMEYER: Q. Dr. Pooley, let me ask

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you: Have you reviewed some material generated by the Armor Research Foundation?
A. Yes.
Q. What was it that they appear to have been doing?
A. They were engaged, from the letters that I saw, by Lorillard company to investigate the particulate matter in smokes from two types of cigarettes.
Q. Were they using an electron microscope?
A. Yes.
Q. Did they detect the presence of any mineral particles or asbestos particles in the smoke from those cigarettes?
A. They didn't recall any results, no.

Q. Did they have the capabilities of -- did the equipment they were using have the capability of detecting it?
A. I would assume so. If it was an electron microscope, yes.
MR. OHLEMEYER: Thank you. That's all I have.
THE COURT: We will take the noon recess. What are you suggesting, an hour, hour-and-a-half?
MS. CHABER: Hour-and-a-half, I would think.
THE COURT: We will take an hour-and-a-half until 1:30. Please keep in mind the admonitions that you're not to form an opinion about the case and you're not to discuss it, and you're not to seek any information about it from anybody. If anybody attempts to give you any information or talk about the case in any way, please advise the Court.
Return at 1:30, please.
(Lunch recess taken.)

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REPORTER'S CERTIFICATE

I, JOANNE M. FARRELL, A Pro Tempore Court Reporter of the Superior Court of the City and County of San Francisco, State of California, do hereby certify that I correctly reported the within-entitled matter and that the foregoing is a full, true and correct transcription of my shorthand notes of the testimony and other oral proceedings had in the said matter.

Dated this 23rd day of August 1995
San Francisco, California

_____
JOANNE M. FARRELL, CSR# 4838

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